

Life-Cycle Event Processing – Simple Exotic Options

Market Impact and Best-Practice Recommendation for Processing Barrier Events

Introduction

This document seeks to address the risk management benefits of additional life-cycle event processing for simple exotic options. Specifically, the focus of this paper is the added market value of adopting standardized operational processes for notifying counterparts of Barrier Event occurrences, otherwise known as “barrier breaches.”

Product Overview

A Barrier Option is a type of Currency Option Transaction, as defined in the 2005 Barrier Option Supplement (the “Barrier Supplement”) published by ISDA (the International Swaps and Derivatives Association, Inc.), EMTA, Inc., and the Foreign Exchange Committee. A Barrier Option is a path-dependent instrument that can operate like a vanilla option; however, only if the underlier reaches or surpasses a predetermined level (barrier) is this option either “knocked in” or “knocked out,” as described below.

As defined in the Barrier Supplement, “Event Type” means a Barrier Event specified in the related Confirmation as applicable to a Transaction. Event Types are generally defined as follows:

- (i) “Knock-Out” means that if the Spot Exchange Rate during a Barrier Event Period is equal to or beyond the Barrier Level, then Automatic Termination shall apply to the Transaction.
- (ii) “Knock-In” means that if the Spot Exchange Rate during a Barrier Event Period is equal to or beyond the Barrier Level, then the Transaction shall settle in accordance with Section 3.7 of the Definitions.

(iii) “Double Knock-Out” means that if the Spot Exchange Rate during a Barrier Event Period is either (a) greater than or equal to the Upper Barrier Level or (b) less than or equal to the Lower Barrier Level, then Automatic Termination shall apply to the Transaction upon such occurrence.

(iv) “Double Knock-In” means that if the Spot Exchange Rate during a Barrier Event Period is either (a) greater than or equal to the Upper Barrier Level or (b) less than or equal to the Lower Barrier Level, then the Transaction shall settle in accordance with Section 3.7 of the Definitions.

(v) “No-Touch Binary” means that if the Spot Exchange Rate during a Barrier Event Period, based on the Spot Exchange Rate Direction, is equal to or beyond the Barrier Level, then Automatic Termination shall apply to the Transaction upon such occurrence; otherwise, in the absence of such Barrier Event, the Transaction shall settle on the Settlement Date by the payment by the Seller to the Buyer of the Settlement Amount.

(vi) “One-Touch Binary” means that if the Spot Exchange Rate during a Barrier Event Period, based on the Spot Exchange Rate Direction, is equal to or beyond the Barrier Level, then the Transaction shall settle on the Settlement Date by the payment by the Seller to the Buyer of the Settlement Amount.

(vii) “Double No-Touch Binary” means that if the Spot Exchange Rate during a Barrier Event

Period is either (a) greater than or equal to the Upper Barrier Level or (b) less than or equal to the Lower Barrier Level, then Automatic Termination shall apply to the Transaction upon such occurrence; otherwise, in the absence of such Barrier Event, the Transaction shall settle on the Settlement Date by the payment by the Seller to the Buyer of the Settlement Amount.

(viii) “Double One-Touch Binary” means that if the Spot Exchange Rate during a Barrier Event Period is either (a) greater than or equal to the Upper Barrier Level or (b) less than or equal to the Lower Barrier Level, then the Transaction shall settle on the Settlement Date by the payment by the Seller to the Buyer of the Settlement Amount.

The Barrier Determination Agent is responsible for notifying the other party to the Transaction (or both parties to the Transaction, if the Barrier Determination Agent is not a party to the Transaction) of the occurrence of a Barrier Event relating to the Transaction. This notice can be provided by telex, telephone, facsimile transmission that is acknowledged by the receiving party, or other electronic notification. If there is a failure to give such notice, it shall not prejudice or invalidate the occurrence or effect of such event.

Barrier Event Volumes:

Month	Number of Banks	Simple Exotic Volume	Total Volume	Percentage of Total Volume
July-2010	14	13,717	430,409	3.19%
August-2010	14	11,165	470,651	2.37%
September-2010	14	15,784	526,111	3.00%
October-2010	14	15,052	551,611	2.73%
Average Volume	14	13,930	494,696	2.82%

Source: Markit™ Monthly FX Metrics {Regulated Products}.

Note: Data set includes NDFs, Vanilla Deliverable Options, Vanilla Non-Deliverable Options, Simple Exotic Options, and Complex Exotic Options.

Barrier Event Practices

The market has no uniform standard regarding the notification of the occurrence of a Barrier Event. The Barrier Supplement outlines how a notification may be provided, but notes that *the failure to give such*

notification does not invalidate the occurrence of a Barrier Event.

Business (Front-Office) Practices

- The determination of a Barrier Event is first communicated by the Front Office.
- Upon such event, the common industry practice is for the Front Office to notify the other party(ies) to the transaction that the event has occurred (Front-Office-to-Front-Office). This “Initial Notification” usually occurs before or at system entry using a variety of communication methods.
- The preferred method between trading desks across the interdealer market is for Initial Notification to take place over Reuters.
- Initial Notification for clients (that is, when trades are between market-makers and non-banking institutions) is also the industry norm. In this case, trading desks alert their sales force, who in turn notify their clients of the event via phone or instant message (chat).

Operations (Back-Office) Support Practices

- Operational support practices (Back-Office-to-Back-Office) vary significantly between Barrier Determination Agents and their counterparts or clients.
- In addition to the Initial Notification, in most cases, the Back Office will send a “Secondary Notification” of Barrier Event occurrence to the party(ies) involved in the transaction, typically in the form of a written notice.
- Some Secondary Notification is done electronically, specifically via the MT306 message. This occurs more frequently where the original transaction was confirmed via SWIFT.
- In other cases, no Secondary Notification is sent at all.

Other Risk-Mitigating Actions

In addition to the foregoing support practices, most banks currently perform the following supplemental practices, which further serve to mitigate the risk associated with Barrier Event discrepancies between parties:

- Margin/Valuation Teams regularly dispatch daily/monthly statements of open positions, valuations, and/or spot trade activity.
- When sales/trading desks provide Initial Notification, they may further exchange validation of such occurrence via phone, email, or other electronic platform (for example, Reuters). The Back Office may receive or obtain a copy of such validation and store it with the trade record.
- In some cases, the Back Office will also email or voice confirm the occurrence of a Barrier Event.

The combination of Business and Operations practices along with Mitigating Actions create the framework to reduce risk related to Barrier Events.

Proposed Process Considerations

We have identified the following two processes for consideration as an Operational Best Practice for further risk management of Barrier Option life-cycle events: (1) reinforce the current process of transmitting Secondary Notification for all Barrier Event occurrences, and/or (2) encourage the electronic confirmation of the Barrier Event through use of SWIFT messages. The proposed considerations are further described below.

(1) NOTIFICATION – Issuance of a written Secondary Notification for all Barrier Event occurrences. This notification would fall within current operational workflows matching those of other over-the-counter FX Transactions.

Control Benefits: Adherence to this best practice would require lower implementation considerations, use existing framework for the notification of events, and would converge market practices. Participants could leverage existing systems to support this flow. A firmly established Secondary Notification process would also serve as a reasonable external check against front-office bookings of these events.

Implementation Considerations: The use of paper versus electronic media for Barrier Event notifications provides less long-term efficiencies, particularly if simple exotic volumes grow. In

addition, paper is not a strategic solution if electronic confirmation is more widely proposed for life-cycle event risk management.

Implementation Considerations versus Control Benefits: Notwithstanding the Implementation Considerations outlined above, we would support a proposal to have a formalized Secondary Notification put in place as a best practice for the market.

(2) CONFIRMATION – Use of SWIFT messaging for the electronic confirmation of Barrier Event occurrences. This best practice would (i) require the market to agree to the type of SWIFT message used to confirm Barrier Event occurrences, with the most likely candidate being the MT306; (ii) provide guidance and directive and look to progressively increase the rate of electronic confirmation of “knock events” across G14 participants; and (iii) look to replicate the best practices established for the electronic confirmation of Non-Deliverable Options using MT305 SWIFT messaging.¹

Control Benefits: Adherence to this best practice would converge market practices regarding the Secondary Notification, with a diminishing requirement for any additional operationally intensive processing via email, voice notification, and telex notification. Participants would rely on one method, creating longer term operational efficiency and resource reductions. Another benefit would be increased longer term scalability.

Implementation Considerations: Participants would have to agree on the SWIFT message type and necessary information to constitute proper Secondary Notification. Participants would also have to undertake infrastructure expenditures to comply with best practices, possibly requiring the build-out of internal systems to support this flow.

Implementation Considerations versus Control Benefits: The Implementation Considerations outlined above present complex challenges to adopting a best practice of electronically confirming Barrier Events at this time. It would be appropriate, when there is greater clarity in the market as to the

¹ This would apply in the case of a Non-Deliverable Barrier Option.

impact of execution and central clearing requirements on these products, to revisit this proposal.

Conclusion

Although there is no legal requirement to notify counterparties of the occurrence of a Barrier Event (and no such requirement is being advocated herein), current practice is for the Initial Notification of such events to occur at the Trading desk level. We propose the adoption of a best practice in which a Secondary Notification is provided on the Operational side, initially through issuance of paper (at a minimum) or standard electronic messaging and, possibly later, full electrification if the industry is able to leverage new infrastructure developed in the context of meeting applicable central clearing requirements.